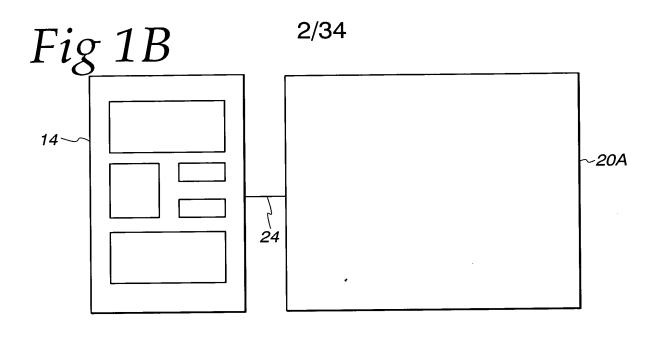
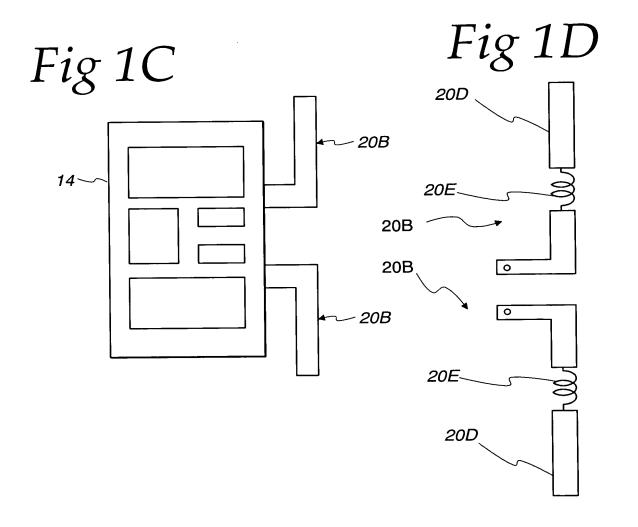
+

RF CIRCUT

1/34 8 50 MEMORY | SENSOR BATTERY ANTENNA <u>7</u>91 30 32 36 USER INTERFACE SITE R/T윤 Fig. 1A



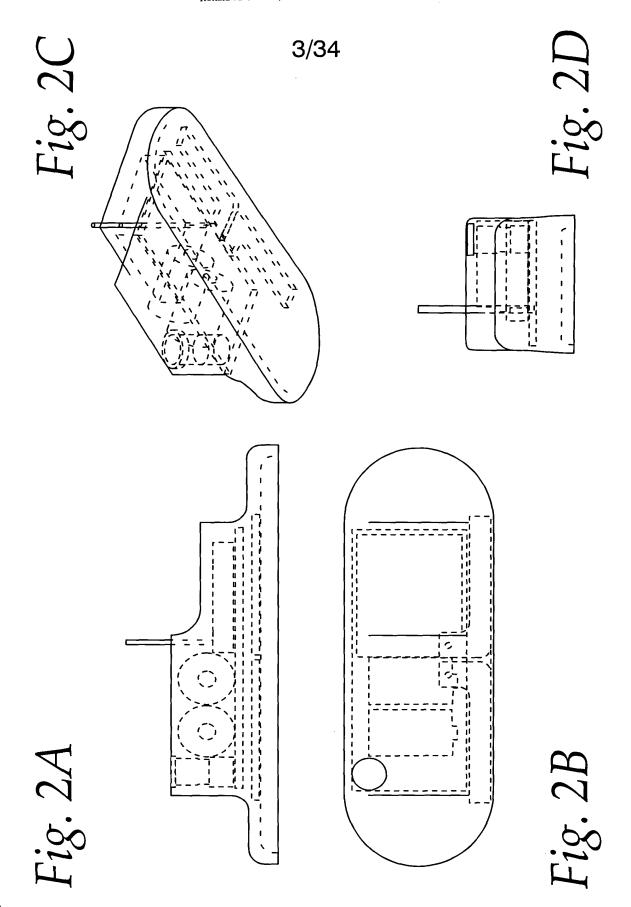


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Filed July 26, 2001

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+

4/34 Fig. 3C Fig. 3A

+

5/34 Fig. 4A Fig. 4(+ +4B 39 Fig. 4B

+

39 6/34 Fig. 5A Fig. 5C + 5B 品 39 Fig. 5D 15 Fig. 5B 13 L

Continuation Application of Gordon E. Hardman et al. Continuation of Serial No. 09/915,858 Filed July 26, 2001

Title: ELECTRONIC TIRE MANAGEMENT SYSTEM

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Fig. 6C 7/34 1 1 Fig. 6A

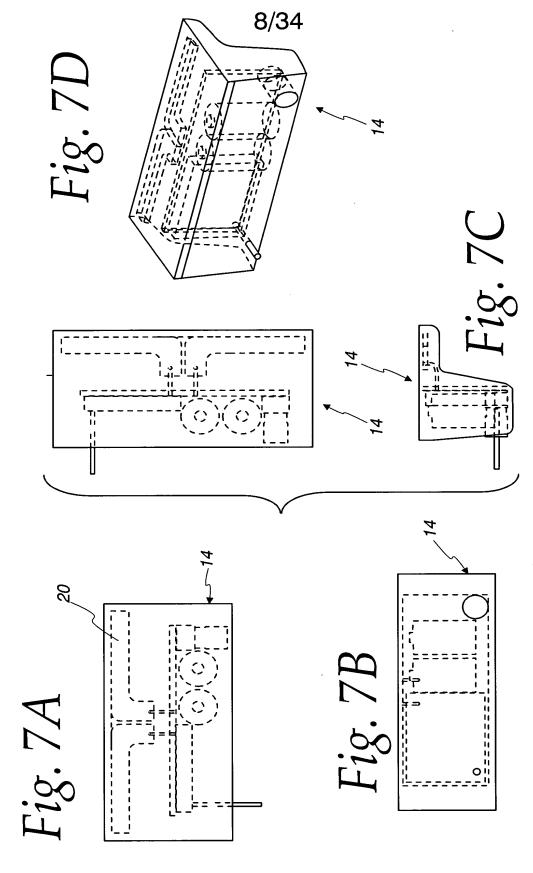
Fig. 6D

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Fig. 6B

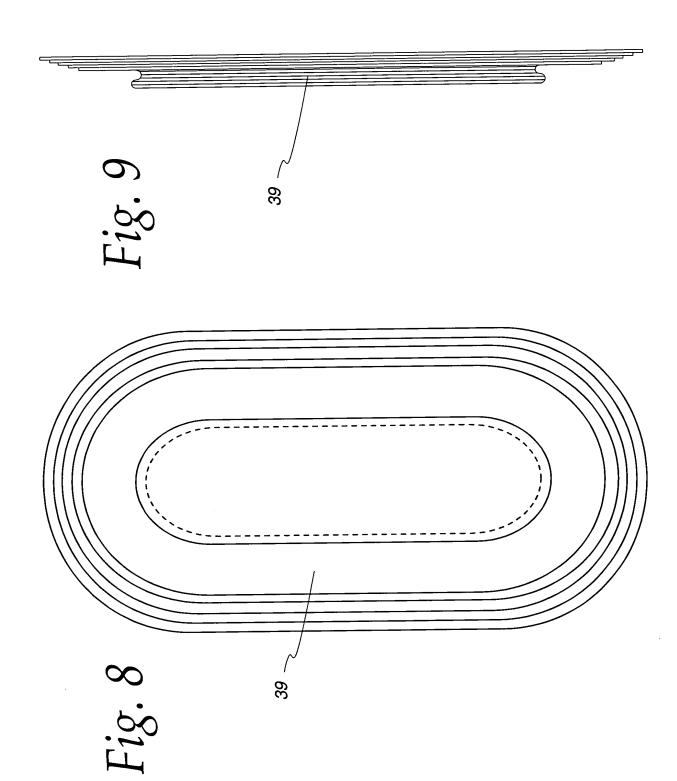
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TAG NORMAL TO ANTENNA WITH REV C BOARD

9/34



10/34 Fig. 10C Fig. 10A.

11/34

Fig. 11A

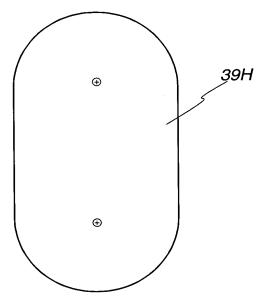
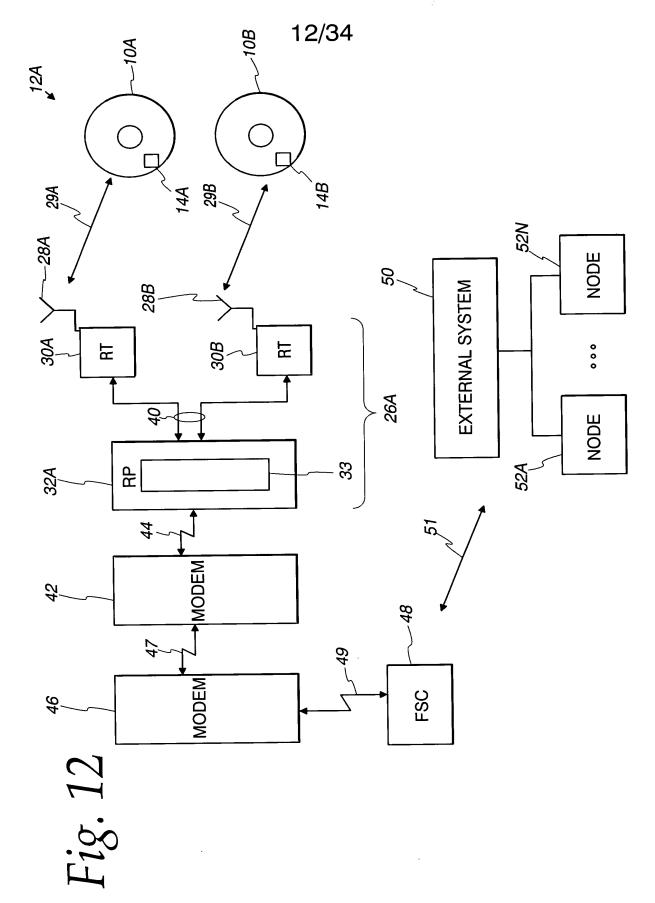


Fig. 11B

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Filed July 26, 2001
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SYSTEM

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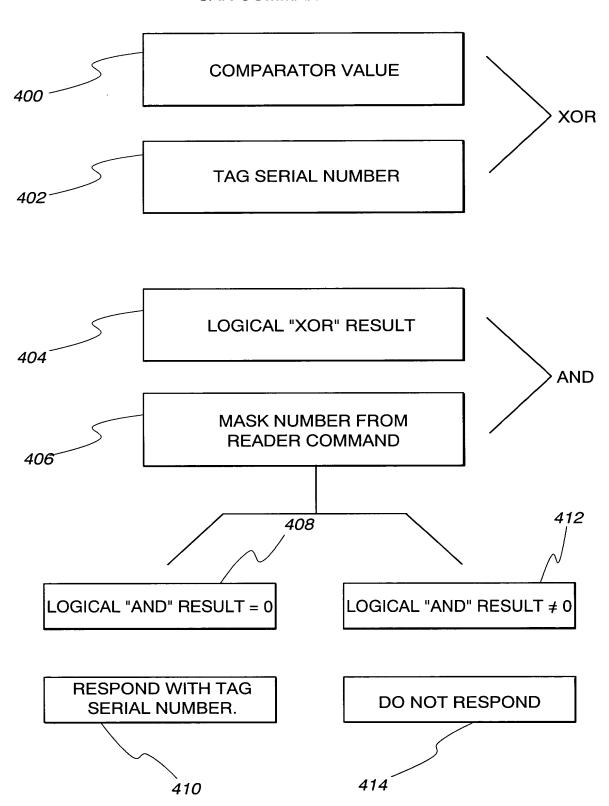
13/34 Fig. 13 TRANSMITTER/ 8 RECEIVER RX DATA SLEEP! 90 CONTROLLER PIC 16C717 MICRO 8 82 V BATTERY SIGNAL VOLTAGE FOR SENSORS SIGNAL 98 8 BATTERY TEMPERATURE SENSOR PRESSURE SENSOR

Fig. 14

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14/34

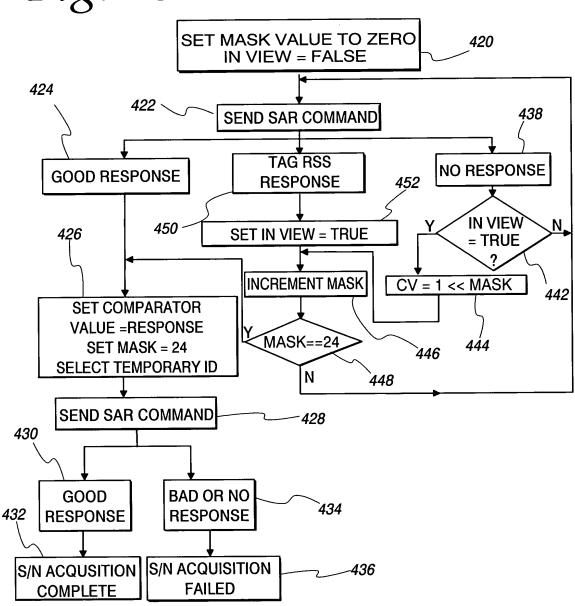
SAR COMMAND PROCESS

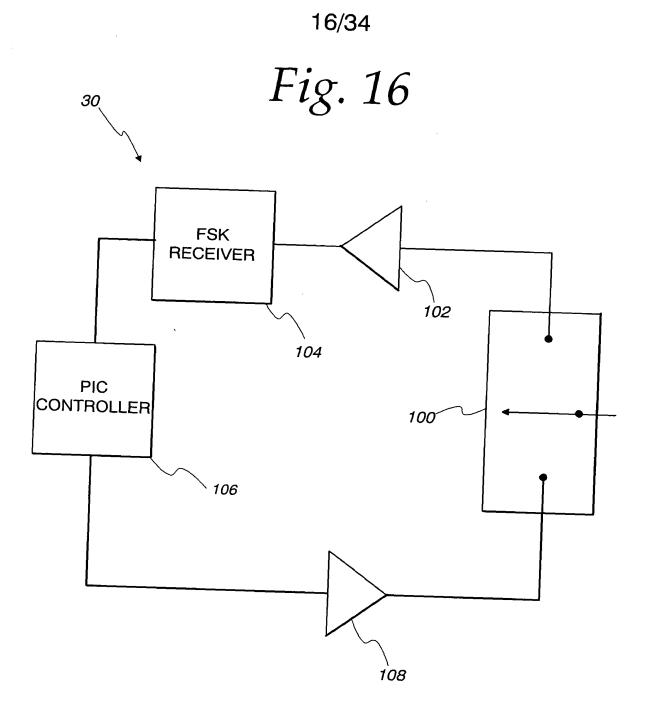


15/34

Fig. 15

READER SAR ACQUISITION FLOW DIAGRAM





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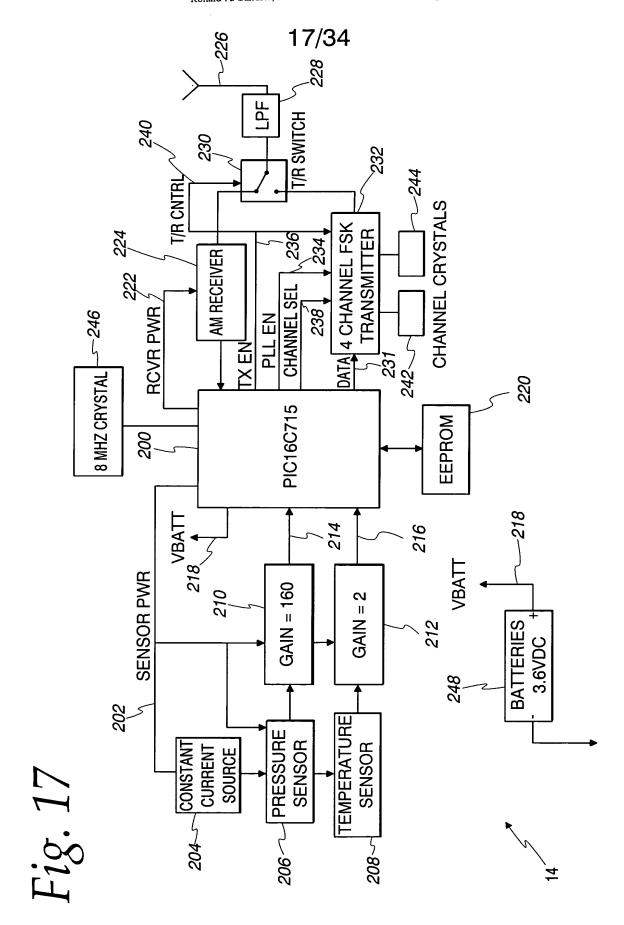
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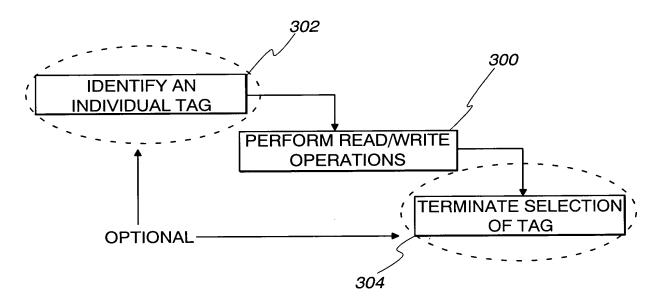
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18/34

Fig. 18

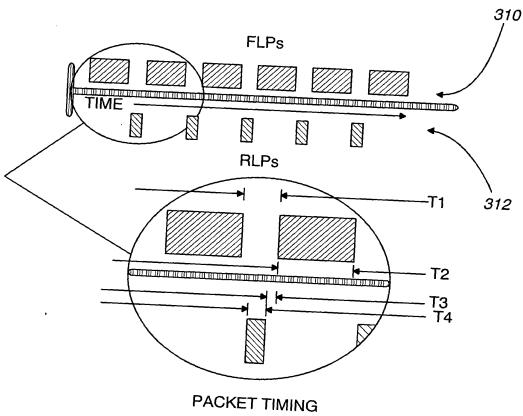
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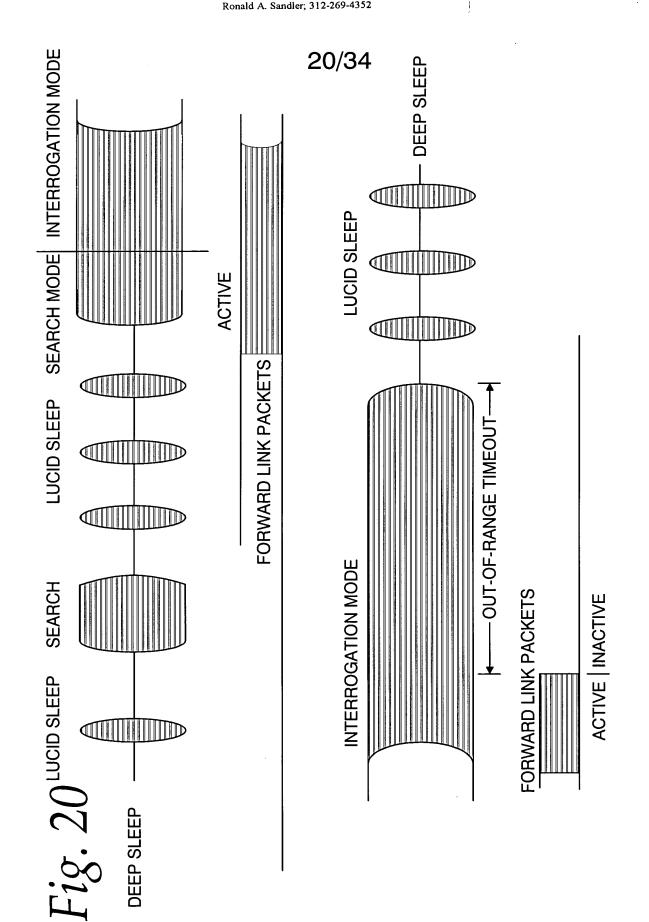
PROTOCOL OVERVIEW



19/34

Fig. 19





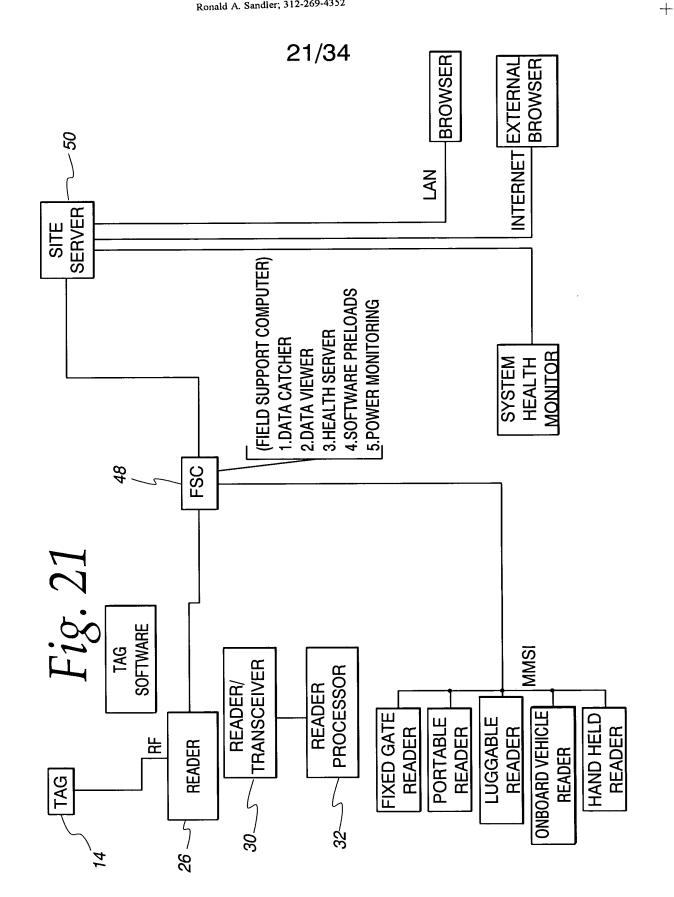
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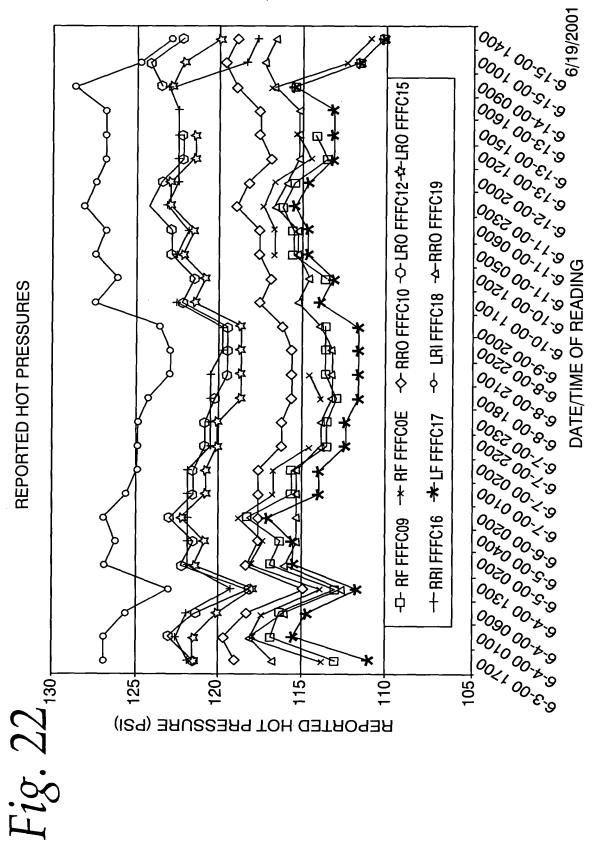


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22/34



Continuation Application of Gordon E. Hardman et al Continuation of Serial No. 09/915,858

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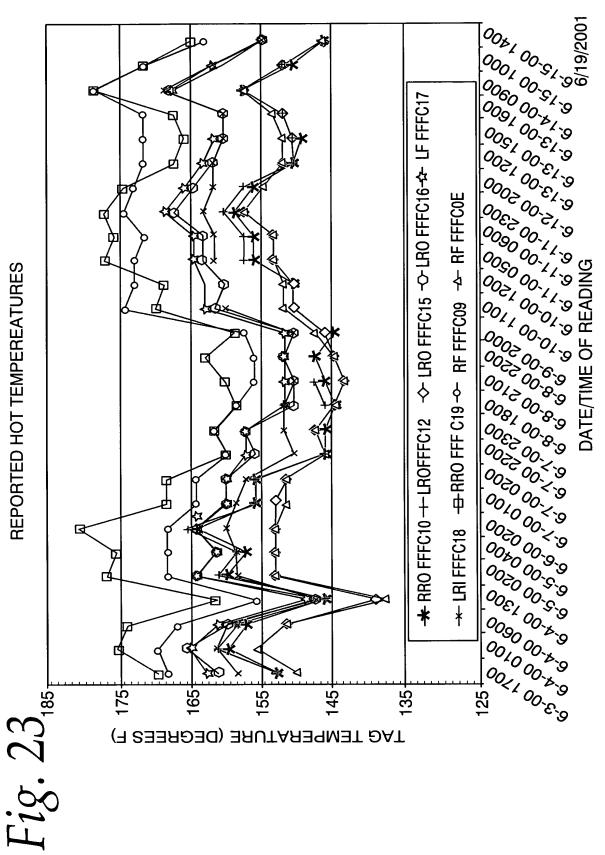
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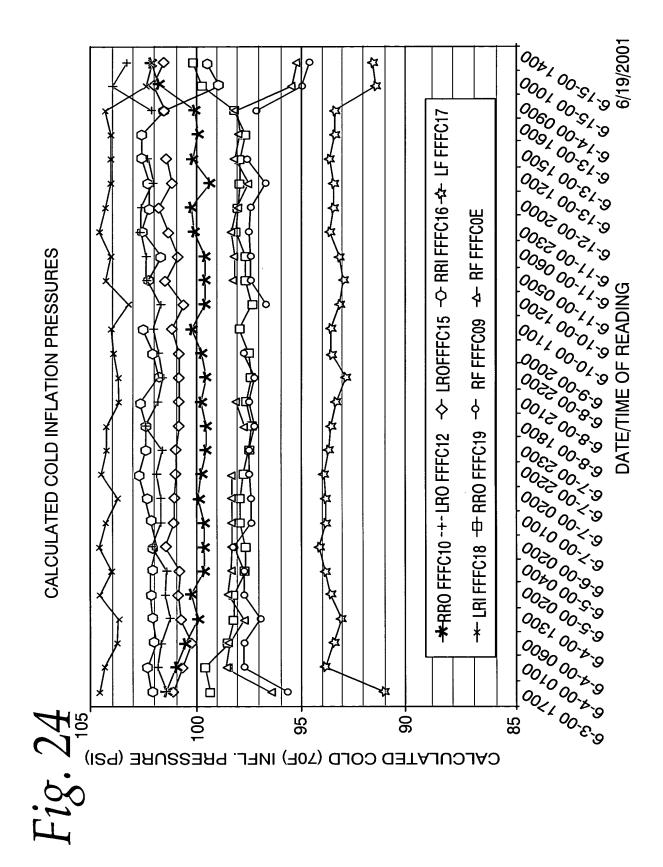
23/34



Continuation Application of Gordon E. Hardman et al Continuation of Serial No. 09/915,858
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24/34



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Fig. 25

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25/34

TAG FIRMWARE LAYERS

INITIALIZATION LAYER

FIG.26

DISTINGUISHES BETWEEN POWER ON, WAKEUP FROM SLEEP, AND WATCHDOG TIMER FAULT

LUCID SLEEP LAYER FIG.27

WAKEUP FROM REM SLEEP.
PROCESS LUCID SLEEP MODE,
TRANSITION TO WORK MODE IF
FORWARD LINK PACKETS ARE
AVAILABLE. REENTER REM SLEEP
MODE IF PACKETS ARE NOT
AVAILABLE. HANDLE HIGH AND LOW
SPEED CLOCK TRANSITIONS.

EEPROM LAYER FIG.29

SAVES AND RESTORES TAG CONFIGURATION INFORMATION, MANAGES ARCHIVED DATA, AND PROVIDES STORAGE FOR FACTORY AND USER CONSTANTS.

SENSOR LAYER FIG.28

PERFORM SENSOR WAKEUP PROCESS.
READ SENSORS, FILTER SENSOR
DATA, AND ARCHIVE DATA IF
NECESSARY. TEST FOR ALARM
CONDITIONS AND PROCESS
ACCORDINGLY IF OUT-OF-LIMIT
CONDITIONS EXIST. INITIATE
AUTONOMOUS TRANSMIT IF REQUIRED.

MAIN LOOP LAYER FIG.30

MAINTAIN SEARCH FOR FORWARD LINK PACKETS. PERFORM SANITY CHECK ROUTINES TO MAINTAIN GENERAL SUBSYSTEM INTEGRITY. UPDATE HEALTH STATUS LEVEL-2 ERROR BITS. RECOVER FROM FATAL ERRORS.

PACKET LAYER FIG.33-34

HANDLE LOW LEVEL FORWARD AND RETURN LINK BIT PROTOCOL. PERFORM FORWARD LINK PREAMBLE DISCRIMINATION.

COMMAND LAYER FIG.31

PROCESS FORWARD LINK
COMMANDS AND MACROS.
ACQUIRE AND MAINTAIN
TEMPORARY IDENTIFICATION,
DETERMINE TARGETED
COMMANDS, AND BUILD
RETURN LINK PACKETS.

26/34

Fig. 26

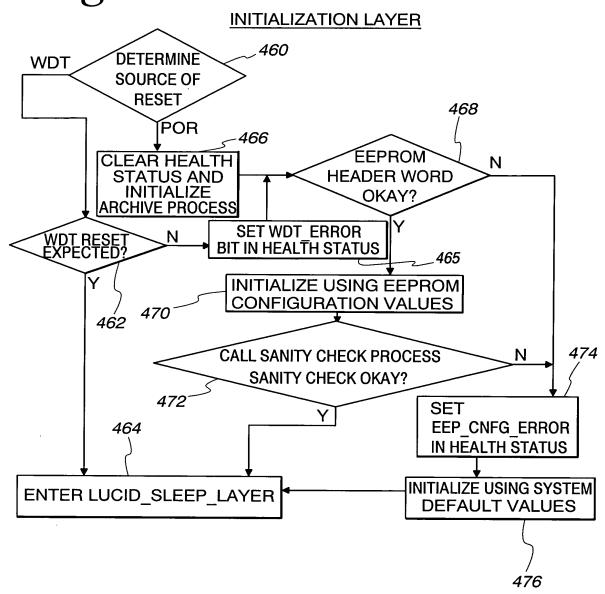
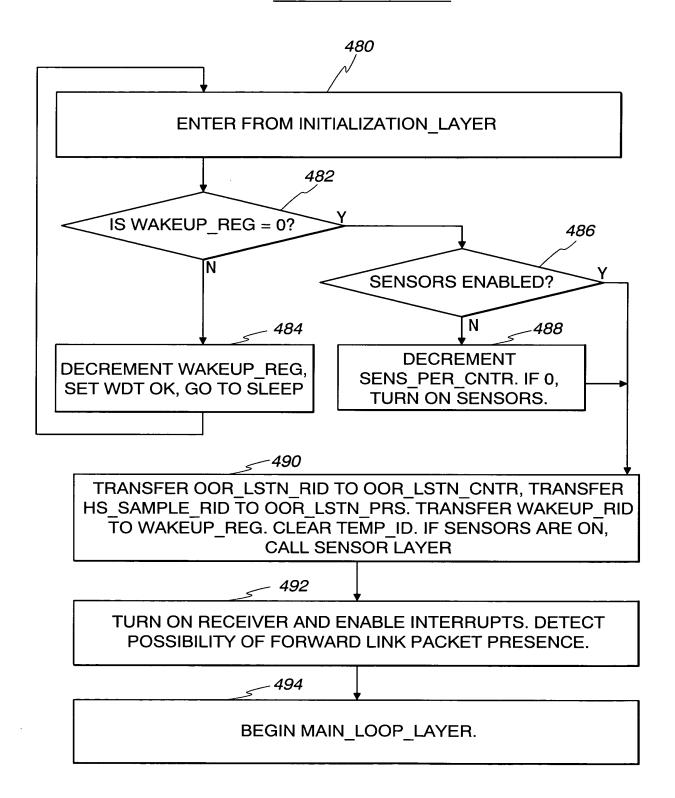


Fig. 27

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27/34

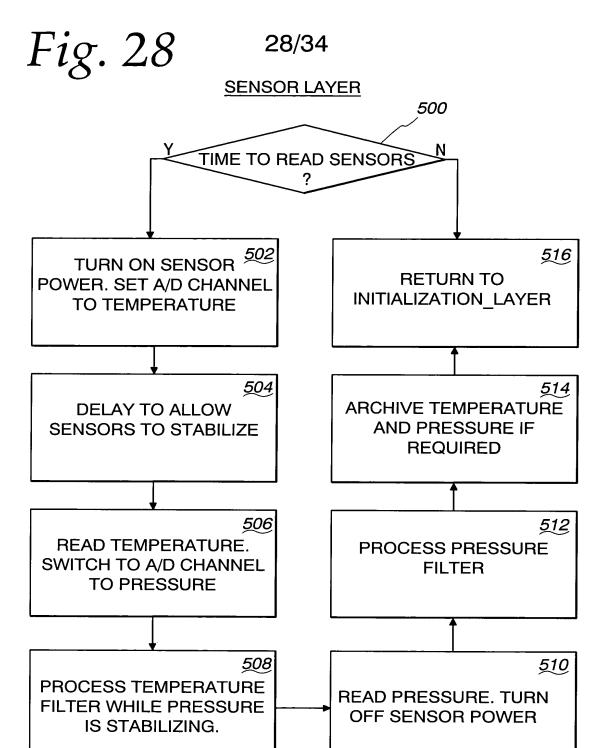
LUCID SLEEP LAYER



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Ronald A. Sandler, 312-269-4352



29/34

Fig. 29

EEPROM LAYER

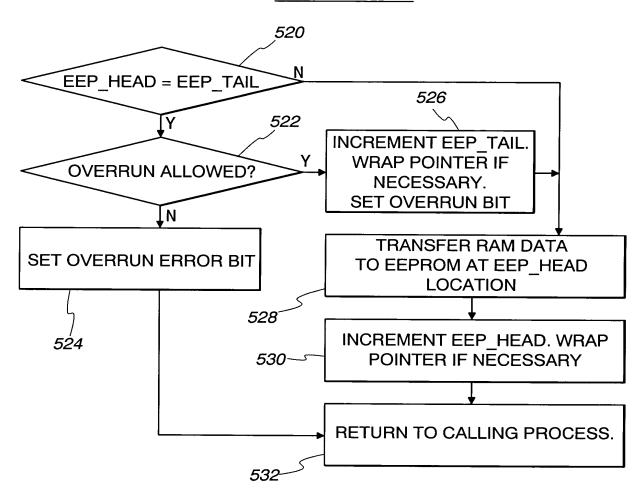


Fig. 30 $\frac{30/34}{\text{MAIN LOOP LAYER}}$

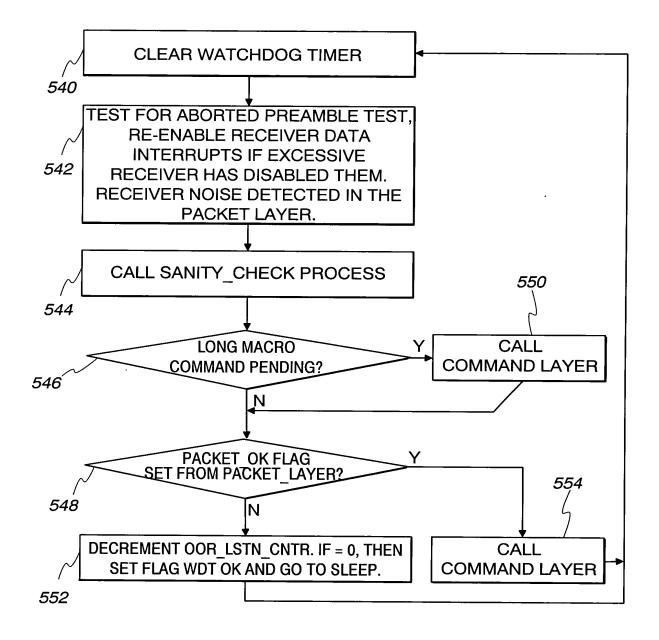
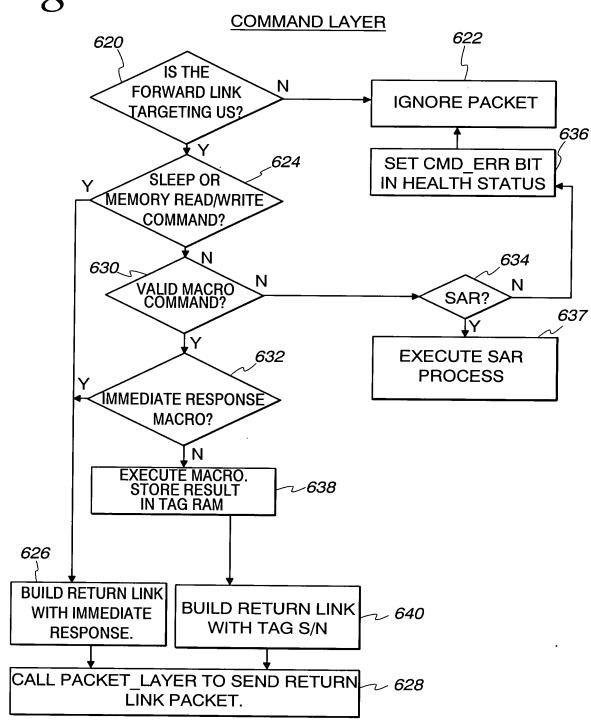


Fig. 31

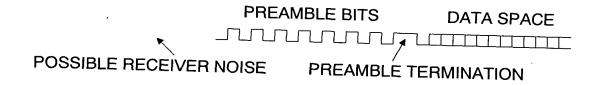
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31/34



32/34

Fig. 32



33/34

Fig. 33

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PREAMBLE DISCRIMINATION

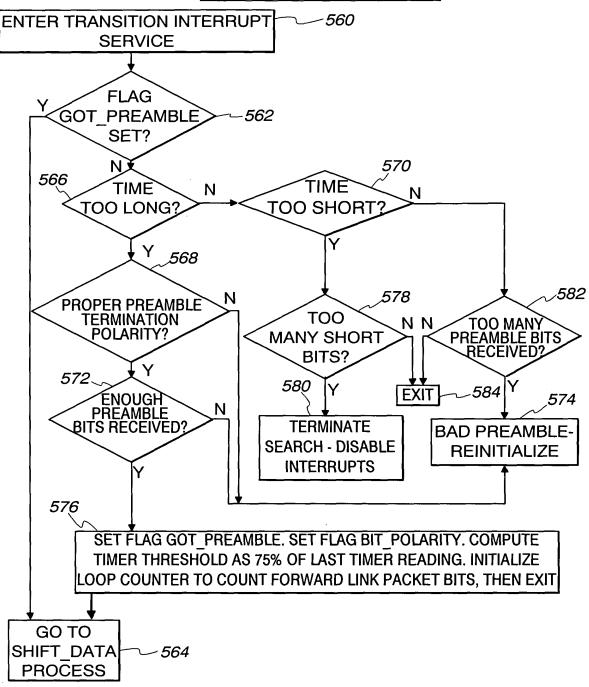


Fig. $34_{\frac{34/34}{\frac{1}{2}}}$

